

REMARKS

The purpose of this submission is to present claim amendments and arguments in reply to the positions taken by the Examiner in the Office Action dated December 27, 2006.

The previous prior art rejections have been withdrawn, and new ones instituted, namely: (1) a rejection of claims 58-65 and 68-74 under 35 USC 103 over Chang et al. U.S. Patent No. 4,421,902; (2) a rejection of claims 60, 65-67, 69 and 74-76 under 35 USC 103 over Chang et al. in view of Carpenter et al. U.S. Patent No. 5,527,614; and (3) a rejection of claim 77 under 35 USC 103 over Chang et al. in view of Robinson U.S. Patent No. 5,874,495.

To counter the new rejections, main claim 58 has been amended to specify that in the colorant compositions of the invention each surfactant monomer of the copolymer surfactant "is an acrylic or methacrylic ester moiety joined to a hydrophobic moiety by a poly(ethyleneoxy) moiety". The amendment is urged to find support in the application, for instance at page 7, lines 16-19, and page 11, line 30, to page 13, line 6. Additionally, new claims 102-104 have been inserted to define, respectively, an embodiment wherein there are two surfactant monomers which are the same or different, an embodiment where in the hydrophobic moiety is selected from the group consisting of alkyl, alkylphenyl, monostyrylphenyl, distyrylphenyl and tristyrylphenyl, and an embodiment wherein the poly(ethyleneoxy) moiety has from about 4 to about 200 ethyleneoxy units. The new claims are urged to find support in the application at page 13, lines 8-10, page 12, lines 3-5, and page 12, line 31, to page 13 line 1.

As discussed in more detail below, the new claim 58 wording clearly excludes the copolymer taught in Chang et al, thus vitiating the rejections, all of which are based solely or principally on that patent.

The pervasive thrust of Chang et al. is the disclosure (1) that "polymerizable alkyl poly(oxyethylene) *poly(carbonyloxyethylene)* acrylates are used to produce copolymers"

(emphasis added) (col. 2, ll. 64-66), and (2) that (upon partial or substantial neutralization) such copolymers “become highly viscous and are suitable for *thickening* aqueous media of a wide variety” (emphasis supplied) (col. 3, ll. 5-11). The thickening capability of the above-mentioned copolymers is further emphasized elsewhere throughout the patent:

- The “copolymers, when neutralized and solubilized by addition of an alkali, are high efficiency *thickeners* for aqueous systems” (emphasis supplied) (Abstract);
- The copolymers are used “for the *thickening* of a variety of aqueous systems” (emphasis supplied) (col. 1, ll. 9-10);
- “copolymer *thickeners* of the claimed invention containing the polymerized units of alkyl poly(oxyethylene) poly(carbonyloxyethylene) acrylates defined herein generally provide *markedly greater viscosity* at given levels [than certain of the prior art]” (emphasis supplied) (col. 3, ll. 12-17);
- the “copolymer may be utilized in a variety of ways to provide the *thickener* or *thickened* compositions of the invention” (emphasis supplied) (col. 6, ll. 50-52);
- in Table II are listed “representative copolymers which constitute aqueous emulsion copolymer dispersion *thickener* compositions according to the invention” (emphasis added) (col. 11, ll. 46-49).

With reference to paint *per se*, the patent contains these disclosures:

- typical “systems that can be *thickened* are paint lattices” (emphasis supplied) (Abstract);
- the “*thickeners* described here are useful in a variety of aqueous systems, such as ... latex paint formulations, ... [and] pigment dispersions ...” (emphasis supplied) (col. 7, ll. 33-36) ;
- a “pigment dispersion for use in making a water-base paint ... may be prepared ... [with] a *thickening* copolymer of the invention” (emphasis supplied) (col. 10, ll. 11-23).

Indeed, the copolymers of Chang et al. are presented as having such potent thickening capability that the patentees actually provided for a way in which to reduce the copolymers “thickening

efficiency” (via a mercaptan chain transfer agent), should a practitioner felt it desirable or necessary to do so (col. 6, ll. 26-35).

Accordingly, the Chang et al “pigment dispersion for use in making a water-base paint” (on which the Examiner centrally relied) is one which essentially contains an alkyl poly(oxyethylene) *poly(carbonyloxyethylene)* acrylate-based copolymer for *thickening* the paint.

At the threshold, it is significant that the rejection based on Chang et al. by itself is under §103. This makes pertinent the issue of whether Chang et al. is analogous prior art at all. Applicants urge that it is not. As demonstrated above, the overwhelming preoccupation of Chang et al. was to provide technology for thickening materials such as water-base paints and pigment dispersions. In direct contrast, the claimed invention is directed to achieving a different, and contradictory, result, i.e., viscosity stabilization (about +/- 10% variance at most). It stands to reason that one of ordinary skill in the art, seeking to stabilize the viscosity of a water-base paint vis-à-vis the tint base from which it is made, would not consult a patent principally devoted to thickening technology. Therefore, Chang et al. constitutes non-analogous art and is not properly applied (the Examiner’s citation thereof is the product of hindsight); the rejection should be withdrawn on this ground alone.

In any case, applicant’s invention as now claimed would not have been obvious from the teachings of Chang et al. because the claimed colorant composition is a different technology designed to accomplish a different result vis-vis the compositions disclosed in Chang et al.

That is, in the claimed invention a different copolymer – namely, a copolymer surfactant wherein the “surfactant monomer” is an acryl or methacrylic ester moiety and a hydrophobic moiety joined by a poly(ethyleneoxy) moiety, which is *devoid of the poly (carbonyloxyethylene)* component specified in Chang et al. – is utilized. Furthermore, with use of the claimed invention

a different, indeed, antithetical, result is prescribed. Rather than the substantial thickening/viscosity increasing effect disclosed in Chang et al., the claimed invention defines a viscosity-stabilization result (again about +/- 10% variance at most).

Even if the pertinence of Chang et al. is assumed for the purpose of argument (though applicants contest this), the §103 rejection based on that reference by itself is unwarranted. This is because, had one of ordinary skill in the art consulted the Chang et al. teachings, they would have led away from the claimed invention. Taking the Examiner's contentions to their logical conclusion, Chang et al. would have caused one of ordinary skill in the art to have expected that incorporation of applicants' copolymer surfactant in the claimed colorant composition would have conferred profound thickening capability on such composition. That is, of course, in diametric opposition to what is claimed, to wit, incorporation of applicants' copolymer surfactant in the claimed colorant composition intentionally effects viscosity stabilization as aforesaid, not deliberate viscosity increase (thickening).

In light of the aforementioned, applicants submit that neither the claimed colorant composition nor claimed method of making it would have been obvious from Chang et al. Reconsideration and withdrawal of the §103 rejection based on Chang et al. as the sole reference are requested.

The rejections under §103 based, respectively on Chang et al. in view of the Carpenter et al. and on Chang et al. in view of Robinson are also believed unfounded. First, neither of Carpenter et al. nor Robinson discloses viscosity stabilization and therefore neither in combination with Chang et al (assuming *arguendo* such combination is permissible under the law) would make the otherwise non-analogous Chang et al. disclosure relevant. Moreover, and in any event, neither the Carpenter et al. pigment disclosure nor the Robinson "surfactant"

disclosure remedies the shortcomings of Chang et al. Even if the Carpenter et al pigment disclosure is substituted into Chang et al., the latter still fails to teach applicants' copolymer surfactant, a colorant composition incorporating same, or the resultant viscosity stabilization defined in the claim language. As to Robinson, one of ordinary skill in the art would not have had any motivation for combining its teachings with those of Chang et al. to arrive at applicants' claimed invention. Robinson does not disclose use of its surfactant in a colorant composition like applicants', and additionally is devoid of any disclosure concerning achievement of viscosity stabilization. So, Robinson would have been useless for suggesting modification of the Chang et al. pigment dispersion in such manner as to confer viscosity stabilization capability thereon.

Likewise, nothing in Carpenter et al. or Robinson would have motivated one to modify Chang et al. to arrive at the steps of applicants' method leading to production of applicants' colorant composition, especially in light of the latter's itself having been nonobvious.

Consequently, reconsideration and withdrawal of the §103 rejections based on Chang et al. in view of Carpenter et al. and Chang et al. in view of Robinson are also requested.

Correspondingly, new dependent claims 102-104 define patentable subject matter for the same reasons as claim 58, etc., and thus would not properly be rejected on any of the bases articulated by the Examiner in the Office Action.

Conclusion

In view of the foregoing amendments and remarks, allowance of the application with claims 58-77 and 102-104 is solicited. Applicants, after an arduous prosecution, have made a

sincere and comprehensive effort to address and overcome all the pending rejections; should the Examiner believe there is any further reason for not allowing the claims, it is requested that she telephone the undersigned to expedite resolution thereof.

Respectfully submitted,

Dated: April 26, 2007

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